

## REMARKS

In response to dependent claims 5-8 and 14-17 being indicated to be allowable, each of claims 5 and 14 are being re-written into independent form. Claims 5 and 14 are, therefore, now in allowable form. The remaining allowable claims 6-8 and 15-17 depend from independent claims 5 and 14, respectively, so are also submitted to also be in allowable form. Amendments are also being made to dependent claims 8 and 17 in order to correct a few typographical errors.

In the course of amending these claims, it was noted that the most recent version of the claims submitted by prior counsel in an Amendment dated September 5, 2001, did not include changes made to the claims by an earlier Preliminary Amendment dated February 15, 2001. Therefore, the form of these claims that is assumed to currently exist in the attached "Details of Amendments Being Made to the Claims" includes the changes made by both amendments. Similarly, when amending claims 5 and 14 to include limitations from other claims upon which they were dependent, all the changes previously made to claims 1, 4, 11, 12 and 13 have also been included from both of the prior amendments.

Similarly, with respect to the remaining claims 1, 4, 6, 7, 9-13, 15, 16 and 18 not being further amended herein, both sets of amendments that were independently made to many of these claims by the Preliminary Amendment dated February 15, 2001, and the responsive Amendment dated September 5, 2001, are included in the versions set forth above. If the Examiner would prefer the claims to be shown in some other form, the undersigned attorney would be pleased to provide them.

The rejection of claims 1, 4, 9-13 and 18 under 35 U.S.C. §103(a) over U.S. patents nos. 5,714,909 ("Jackson") and 5,880,631 ("Sahota") is respectfully traversed. As pointed out in the Office Action, the Jackson reference lacks disclosure, in an infrared transceiver system, of staged current amplification in the manner claimed. The Sahota reference has been cited as evidence that one of ordinary skill in the art would have found it an obvious change to make. But the Sahota reference is not directed to an infrared transceiver, as is the Jackson reference and the rejected claims. Rather, Sahota describes an amplifier for receiver and transmitter chains in a cellular telephone. There is no reason that can be found from the references as to why one skilled in the art would have

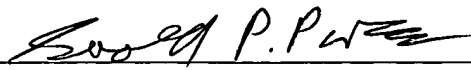
made the substitution that is now contended to be obvious. Indeed, the current amplifier in the Sahota reference requires that an input voltage signal first be converted into a current signal and then applied to the input of the current amplifier. This is quite a different system from that claimed in the present application, wherein a current signal from an infrared signal detector is the input to the staged current amplifier. It is submitted that the modification of the Jackson patent according to the system of Sahota in a different technical field would not have been obvious. Reconsideration of the obviousness rejection of claims 1, 4, 9-13 and 18 is respectfully requested.

It is believed that the present application is now in condition for allowance, and an earlier indication of its allowance is earnestly solicited.

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Respectfully submitted,

  
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Date

## DETAILS OF AMENDMENTS BEING MADE TO THE CLAIMS

5. (Amended Three Times) ~~The~~ An improved infrared transceiver system of Claim 4, comprising:  
a first sensor for detecting infrared signals incident thereon and converting said signals to an electrical current signal;  
a gain controller for amplifying said current signals;  
a voltage converter for converting said current signals into voltage signals; and  
a staged current amplifier in circuit between said gain controller and said voltage converter, said staged current amplifier comprised of at least two amplification stages, each of said stages amplifying said current signals, wherein said gain controller comprises a current mirror in operative connection with said staged current amplifier and further wherein said staged current amplification-amplifier means comprises:  
a first transistor, said first transistor comprising a first drain and a first gate;  
a second transistor, said second transistor comprising a second source and a second drain, said second source being in circuit with said first drain;  
a third transistor, said third transistor comprising a third gate and a third source, said third gate being in circuit with said second drain; and  
a fourth transistor, said fourth transistor comprising a fourth drain and a fourth gate, said fourth drain in circuit with said fourth gate and said first gate.

8. (Twice Amended) The system of Claim 7, wherein each of said transistors comprises a bias voltage, and wherein said bias voltage is dynamically adjustable in order to operate each of said transistors in a weak inversion range.

14. (Amended Three Times) ~~The~~ An improved wireless signal receiver system of Claim 13, comprising:  
a first sensor for detecting wireless signals incident thereon and converting said signals to an electrical current signal;  
a gain controller for amplifying said current signals; and  
a voltage converter for converting said current signals into voltage signals;

wherein said gain controller further comprises a staged current amplifier operating in the weak inversion range, and a current mirror in operative connection with said current amplifier; and wherein said current amplifier comprises:

a first transistor, said first transistor comprising a first drain and a first gate;  
a second transistor, said second transistor comprising a second source and a second drain, said second source being in circuit with said first drain;  
a third transistor, said third transistor comprising a third gate and a third source, said third gate being in circuit with said second drain; and  
a fourth transistor, said fourth transistor comprising a fourth drain and a fourth gate, said fourth drain in circuit with said fourth gate and said first gate.

17. (Twice Amended) The system of Claim 16, wherein each of said transistors comprises a bias voltage, and wherein said bias voltage is dynamically adjustable in order to operate each of said transistors in a weak inversion range.